

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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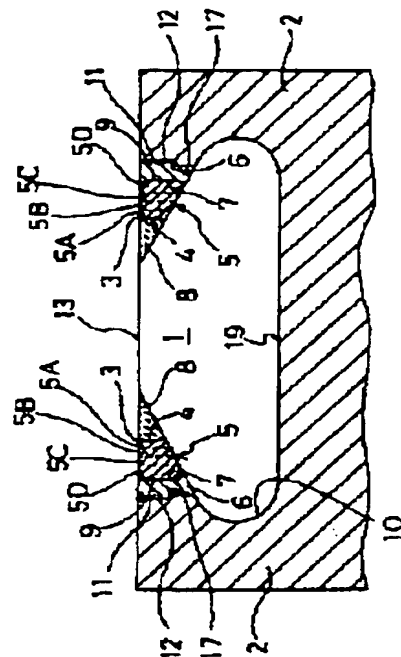
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TITLE : MANUFACTURE OF COMBUSTION  
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ABSTRACT : PURPOSE: To facilitate joining of a lip assembly with the body of a piston head by making the outer ring of the lip assembly from a metal material, and welding the lip assembly to the piston head body which is made of the same metal material.

CONSTITUTION: A lip 8 made of a ceramic material having a low coefficient of thermal expansion is joined by metal flow with the inner wall surface 4 of a ring coupling 5 made of gradient functional material having different coefficients of thermal expansion, and an outer ring 6 made of metal material is joined by metal flow with the outer wall surface 9 of this ring coupling 5, and thus a lip assembly 20 is fabricated. The outer ring 6 of this lip assembly 20 is located on the wall surface 11 of a cavity 10 formed in a piston head body 2 made of metal, and these outer ring 6 and piston head body 2 are joined together by electron beam welding or laser welding.

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